Remarks

Claims 1-14 are pending. Claims 1, 7 and 10 have been amended to more clearly and distinctly claim the subject matter that applicants regard as their invention. No new matter is believed to be added by the present amendment.

Responsive to the objection to claim 3, the claim has been amended to correct the spelling of "overwritten."

Responsive to the rejection of claim 10 under 35 U.S.C. 112, second paragraph, the claim has been amended to recite structural elements associated with the digital television apparatus. Applicants submit that the rejection has been overcome in view of the amendment.

Responsive to the rejection of claims 1-4 and 7-10 under 35 U.S.C. 103(a) as being unpatentable over Kolnick, Applicants submit that for the reasons discussed below the present claims are patentably distinguishable over the teachings of Kolnick.

The present invention is directed to providing interoperability between multiple electronic devices that are connected together via a digital data bus, for example the IEEE 1394 bus. In particular, the present invention recognizes that when a digital apparatus, for example a DTV, which is capable of processing a digital stream representative of a video program, is coupled to a peripheral device, it is desirable to enable the apparatus to receive OSD data associated with the peripheral device in bit-mapped form, and to combine the bit-mapped data with the digital stream to produce a signal representative of a combined displayable image.

Such an arrangement obviates the requirement of including an encoder, such as an MEPG encoder, that is capable of generating a desired encoded data stream, with the peripheral device in order to enable OSD associated with the peripheral device to be displayed with a digital stream. This advantage is illustrated, for example, in Figs. 2 and 3 and their associated description (see MPEG encoder 15). Further, allowing the peripheral device to generate and transmit the bit-mapped OSD data allows the manufacturer of the peripheral

device to: 1) maintain the desired "look and feel," 2) have freedom in generating the OSD, 3) provide dynamic updates as desired (page 4, lines 34-37). The bit-mapped representations also require less processing in the digital apparatus (page 4, line 37 - page 5, line 2). In this regard, present claim 1 recites an apparatus comprising:

> *(a) means for receiving from a peripheral device, interconnected by a digital bus,* ***bit-mapped data representative of an on-screen display associated with said peripheral device****;*
> *(b) means for receiving a* ***digital stream representative of a video program****; and*
> *(c) means for* ***combining****, in said digital apparatus,* ***said bit-mapped data*** *received from said peripheral device* ***and said digital stream*** *to produce a signal representative of a combined displayable image. (emphasis added)*

Claims 7 and 10 include similar limitations in method form and in the context of the digital television, respectively. Applicants respectfully submit that nowhere does Kolnick teach or suggest an apparatus that includes all of the above-recited features.

Kolnick teaches a **software architecture** for providing a user interface for accessing various data and functions available in a data processing system (col. 12, lines 49-57). In that regard, Kolnick teaches a set of software modules, called human interface components (see Fig. 9 and associated description; col. 14, lines 54-58; col. 26, lines 47-49) that may be implemented within the data processing architecture shown on Fig. 3 (col. 3, lines 37-39).

However, Kolnick does not specify any particular hardware configuration or arrangement for implementing the services (col. 14, lines 59-68; col. 7, lines 51-63). As shown in Fig. 3, the system is implemented with a plurality of processors, which may exist physically within one or more nodes, and a plurality of "processes" that send messages to each other, wherein the hardware and software are isolated from each other by a middle layer called a "virtual machine." This allows for **distributed processing across multiple processors** (col. 7, lines 51-63). Therefore, Kolnick teaches away from a specific hardware configuration and an association of a particular process, or software module, with a particular device, or hardware.

Within the interface, Kolnick teaches that a picture is generated using a combination of device-independent "elements" such as text, line, arc and symbol. These picture elements are **device-independent** abstractions of a displayable object (col. 18, line 41 - col. 19, line 37; col. 32, lines 43-50). To generate a picture for a specific output device, an interface component called an Output Manager is used to convert the pictures into a representation on a specific device. An Output Manager is created for each physical output device (col. 20, lines 50-63). The use of device-independent picture elements appears to be in line with a distributed processing system that does not specify particular processes with particular devices, or hardware.

The Output Manager generates the pictures in response to "draw" commands (containing standard picture elements) sent to it by any process (usually a Window Manager) by translating the picture elements to an appropriate output sequence for a particular device (col. 21, lines 23-27). The Output Manager uses the Draw Manager to expand the picture elements into pixels to generate the picture (col. 21, lines 27-30).

The relationship between the Output Manager 315 and the Draw Manager 317 is illustrated, for example, in Fig. 9. It appears that whenever a picture is to be generated, the Output Manager receives the picture elements, transmits the picture elements to the Draw Manager, receives the expanded pixels from the Draw Manager and combines the expanded pixels with any other previously received picture elements to generate the user interface display (Fig. 11).

Applicants submit that Kolnick fails to teach or suggest notable features of the claimed invention. First, Kolinck fails to teach or suggest the claimed bit-mapped data representative of on screen display associated with a peripheral device. As noted above, Kolnick teaches the use of **device-independent** picture elements, which are expanded by the Draw Manager to generate the bit-mapped data (col. 18, lines 40-41; col. 32, lines 43-46). None of the text, graphics, etc., in the system are tied to any particular hardware configuration (col. 14, lines 59-65). These device-independent picture elements are standard elements that are stored compactly and transferred efficiently (col. 12, lines 59-67). The bit-mapped data cited by the Office Action are expanded

representations of these standard, device-independent picture elements, and as such, are presumably also device-independent data. That is, **they are not associated with any specific device**.

By contrast, the present claims recite "bit-mapped data representative of an on-screen display **associated** with said peripheral device (emphasis added)." The bit-mapped data of the claimed invention is device dependent, and using such bit-mapped data provides the manufacturers with the advantages noted hereinabove. Therefore, applicants submit that the claimed bit-mapped data is clearly distinguishable over the bit-mapped data taught by Kolnick.

Second, applicants submit that Kolinck fails to teach or suggest the limitation of

> *means for **combining**, in the digital apparatus, the **bit-mapped data** received from the peripheral device **and the digital stream** to produce a signal representative of a combined displayable image.*

In particular, nowhere does Kolnick teach or suggest combining bit-mapped data representative of OSD data with a **digital stream representative of a video program**. It appears that in the system of Kolnick, each of the picture elements are sent to the Draw Manager, expanded, and then received and combined with previous picture elements in the Output Manager. Although Kolnick notes that dynamic displays may be included, it appears from the description that these dynamic displays are also generated in the same manner as other picture displays. That is, by a combination of the picture elements, or control of parameters associated with the picture elements, wherein the Output Manager in combination with the Draw Manager generate the output displays based on picture elements provided to the Output Manager and expanded by the Draw Manager.

Thus, Applicants submit that nowhere does Kolnick mention or suggest receiving a digital stream representative of a video program and combining the bit-mapped OSD data with the digital stream. Also, for the reasons discussed above, Applicants submit that the system of Kolnick fails to teach or suggest combining a digital stream with bit-mapped OSD data associated with a peripheral device.

In view of the above, applicants submit that Kolnick fails to teach or suggest notable features of the present claims, and thus, present claims 1, 7 and 10, and the claims that depend therefrom, are patentably distinguishable over the teaching of Kolnick.

In view of the foregoing, Applicants submit that the present application is in condition for allowance and respectfully request such action. No fee is believed due in regard to the present amendment. However, if a fee is due, please charge the fee to Deposit Account 07-0832. Should any questions arise regarding any of the above, the Examiner is requested to contact the undersigned at 609-734-6815.

Respectfully submitted,
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Date: Nov. 19, 2003

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Eliza Buchalczyk